

# Publications of Bjoern Andres

## Peer-Reviewed Journal Articles

- [1] E. Türetken, F. Benmansour, B. Andres, P. Głowacki, H. Pfister, and P. Fua, “Reconstructing curvilinear networks using path classifiers and integer programming,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 38, no. 12, pp. 2515–2530, 2016. DOI: 10.1109/TPAMI.2016.2519025.
- [2] J. H. Kappes, B. Andres, F. A. Hamprecht, C. Schnörr, S. Nowozin, D. Batra, S. Kim, B. X. Kausler, T. Kröger, J. Lellmann, N. Komodakis, B. Savchynskyy, and C. Rother, “A comparative study of modern inference techniques for structured discrete energy minimization problems,” *International Journal of Computer Vision*, vol. 115, no. 2, pp. 155–184, 2015. DOI: 10.1007/s11263-015-0809-x.
- [3] M. Rempfler, M. Schneider, G. D. Ielacqua, X. Xiao, S. R. Stock, J. Klohs, G. Székely, B. Andres, and B. H. Menze, “Reconstructing cerebrovascular networks under local physiological constraints by integer programming,” *Medical Image Analysis*, vol. 25, no. 1, pp. 86–94, 2015, **Medical Image Analysis Best Paper Award 2015 by the MICCAI Society**. DOI: 10.1016/j.media.2015.03.008.
- [4] B. Andres, U. Köthe, T. Kröger, M. Helmstaedter, K. L. Briggman, W. Denk, and F. A. Hamprecht, “3d segmentation of sbfsem images of neuropil by a graphical model over supervoxel boundaries,” *Medical Image Analysis*, vol. 16, no. 4, pp. 796–805, 2012. DOI: 10.1016/j.media.2011.11.004.

## Peer-Reviewed Conference Articles

- [1] A. Horňáková, J.-H. Lange, and B. Andres, “Analysis and optimization of graph decompositions by lifted multicut,” in *ICML*, 2017.
- [2] P. Swoboda and B. Andres, “A message passing algorithm for the minimum cost multicut problem,” in *CVPR*, 2017.
- [3] E. Levinkov, J. Uhrig, S. Tang, M. Omran, E. Insafutdinov, A. Kirillov, C. Rother, T. Brox, B. Schiele, and B. Andres, “Joint graph decomposition and node labeling: Problem, algorithms, applications,” in *CVPR*, 2017.
- [4] A. Kirillov, E. Levinkov, B. Andres, B. Savchynskyy, and C. Rother, “Instancecut: From edges to instances with multicut,” in *CVPR*, 2017.
- [5] E. Insafutdinov, M. Andriluka, L. Pishchulin, S. Tang, E. Levinkov, B. Andres, and B. Schiele, “Arttrack: Articulated multi-person tracking in the wild,” in *CVPR*, 2017.
- [6] S. Tang, M. Andriluka, B. Andres, and B. Schiele, “Multiple people tracking by lifted multicut and person re-identification,” in *CVPR*, 2017.
- [7] M. Rempfler, J.-H. Lange, F. Jug, C. Blasse, E. W. Myers, B. H. Menze, and B. Andres, “Efficient algorithms for moral lineage tracing,” in *ICCV*, 2017.
- [8] M. Rempfler, S. Kumar, V. Stierle, P. Paulitschke, B. Andres, and B. H. Menze, “Cell lineage tracing in lens-free microscopy videos,” in *MICCAI*, 2017.
- [9] E. Levinkov, A. Kirillov, and B. Andres, “A comparative study of local search algorithms for correlation clustering,” in *GCPR*, 2017.
- [10] T. Beier, B. Andres, U. Köthe, and F. A. Hamprecht, “An efficient fusion move algorithm for the minimum cost lifted multicut problem,” in *ECCV*, 2016. DOI: 10.1007/978-3-319-46475-6\_44.
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- [12] E. Levinkov, J. Tompkin, N. Bonneel, S. Kirchhoff, B. Andres, and H. Pfister, “Interactive multicut video segmentation,” in *Pacific Graphics Short Papers*, E. Grinspun, B. Bickel, and Y. Dobashi, Eds., The Eurographics Association, 2016, ISBN: 978-3-03868-024-6. DOI: 10.2312/pg.20161332.

- [13] M. Rempfler, B. Andres, and B. Menze, “The minimum cost connected subgraph problem in medical image analysis,” in *MICCAI*, 2016. DOI: 10.1007/978-3-319-46726-9\_46.
- [14] I. Shcherbatyi and B. Andres, “Convexification of learning from constraints,” in *GCPR*, 2016. DOI: 10.1007/978-3-319-45886-1\_7.
- [15] F. Jug, E. Levinkov, C. Blasse, E. W. Myers, and B. Andres, “Moral lineage tracing,” in *CVPR*, 2016.
- [16] L. Pishchulin, E. Insafutdinov, S. Tang, B. Andres, M. Andriluka, P. Gehler, and B. Schiele, “Deepcut: Joint subset partition and labeling for multi person pose estimation,” in *CVPR*, 2016.
- [17] L. A. Royer, D. L. Richmond, C. Rother, B. Andres, and D. Kainmueller, “Convexity shape constraints for image segmentation,” in *CVPR*, 2016.
- [18] M. Keuper, E. Levinkov, N. Bonneel, G. Lavoué, T. Brox, and B. Andres, “Efficient decomposition of image and mesh graphs by lifted multicuts,” in *ICCV*, 2015. DOI: 10.1109/ICCV.2015.204.
- [19] M. Keuper, B. Andres, and T. Brox, “Motion trajectory segmentation via minimum cost multicuts,” in *ICCV*, 2015. DOI: 10.1109/ICCV.2015.374.
- [20] S. Tang, B. Andres, M. Andriluka, and B. Schiele, “Subgraph decomposition for multi-target tracking,” in *CVPR*, 2015. DOI: 10.1109/CVPR.2015.7299138.
- [21] M. Rempfler, M. Schneider, G. D. Ielacqua, X. Xiao, S. R. Stock, J. Klohs, G. Székely, B. Andres, and B. H. Menze, “Extracting vascular networks under physiological constraints via integer programming,” in *MICCAI, Student Best Paper Award, Runner-up (to Markus Rempfler)*, 2014. DOI: 10.1007/978-3-319-10470-6\_63.
- [22] J. Funke, J. N. P. Martel, S. Gerhard, B. Andres, D. C. Ciresan, A. Giusti, L. M. Gambardella, J. Schmidhuber, H. Pfister, A. Cardona, and M. Cook, “Candidate sampling for neuron reconstruction from anisotropic electron microscopy volumes,” in *MICCAI*, 2014. DOI: 10.1007/978-3-319-10404-1\_3.
- [23] B. Andres, J. Yarkony, B. S. Manjunath, S. Kirchhoff, E. Türetken, C. C. Fowlkes, and H. Pfister, “Segmenting planar superpixel adjacency graphs w.r.t. non-planar superpixel affinity graphs,” in *EMMCVPR*, 2013. DOI: 10.1007/978-3-642-40395-8\_20.
- [24] J. H. Kappes, B. Andres, F. A. Hamprecht, C. Schnörr, S. Nowozin, D. Batra, S. Kim, B. X. Kausler, J. Lellmann, N. Komodakis, and C. Rother, “A comparative study of modern inference techniques for discrete energy minimization problem,” in *CVPR*, 2013. DOI: 10.1109/CVPR.2013.175.
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- [29] J. Funke, B. Andres, F. A. Hamprecht, A. Cardona, and M. Cook, “Efficient automatic 3D-reconstruction of branching neurons from EM data,” in *CVPR*, 2012. DOI: 10.1109/CVPR.2012.6247777.
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- [35] B. Andres, C. Kondermann, D. Kondermann, U. Köthe, F. A. Hamprecht, and C. S. Garbe, “On errors-in-variables regression with arbitrary covariance and its application to optical flow estimation,” in *CVPR*, 2008. DOI: 10.1109/CVPR.2008.4587571.
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## Peer-Reviewed Workshop Articles

- [1] M. Rempfler, B. Andres, and B. H. Menze, “Uncertainty estimation in vascular networks,” in *Graphs in Biomedical Image Analysis, Computational Anatomy and Imaging Genetics: First International Workshop, GRAIL 2017, 6th International Workshop, MFCA 2017, and Third International Workshop, MICGen 2017, Held in Conjunction with MICCAI 2017, Québec City, QC, Canada, September 10–14, 2017, Proceedings*, M. J. Cardoso, T. Arbel, E. Ferrante, X. Pennec, A. V. Dalca, S. Parisot, S. Joshi, N. K. Batmanghelich, A. Sotiras, M. Nielsen, M. R. Sabuncu, T. Fletcher, L. Shen, S. Durrleman, and S. Sommer, Eds. Springer International Publishing, 2017, pp. 42–52. DOI: 10.1007/978-3-319-67675-3\_5.
- [2] S. Tang, B. Andres, M. Andriluka, and B. Schiele, “Multi-person tracking by multicut and deep matching,” *CoRR*, vol. abs/1608.05404, 2016, **Winner of the Multi-Object Tracking Challenge at ECCV 2016**. [Online]. Available: <http://arxiv.org/abs/1608.05404>.
- [3] M. Rempfler, M. Schneider, D. G. Ielacqua, T. Sprenger, X. Xiao, R. S. Stock, J. Klohs, G. Székely, B. Andres, and H. B. Menze, “Bildverarbeitung für die medizin 2015: Algorithmen - systeme - anwendungen. proceedings des workshops vom 15. bis 17. märz 2015 in lübeck,” in, H. Handels, M. T. Deserno, H.-P. Meinzer, and T. Tolxdorff, Eds. Berlin, Heidelberg: Springer, 2015, ch. Rekonstruktion zerebraler Gefässnetzwerke aus in-vivo  $\mu$ MRA mittels physiologischem Vorwissen zur lokalen Gefässgeometrie, pp. 161–166, ISBN: 978-3-662-46224-9. DOI: 10.1007/978-3-662-46224-9\_29.
- [4] U. Koethe, B. Andres, T. Kroeger, and F. A. Hamprecht, “Geometric analysis of 3D electron microscopy data,” in *Applications of Discrete Geometry and Mathematical Morphology*, ser. LNCS, U. Koethe, A. Montanvert, and P. Soille, Eds., vol. 7346, Springer, 2012, pp. 93–108. DOI: 10.1007/978-3-642-32313-3\_7.

## Book Chapters

- [1] C. S. Garbe, K. Krajsek, P. Pavlov, B. Andres, M. Mühlich, I. Stuke, C. Mota, M. Böhme, M. Haker, T. Schuchert, H. Scharr, T. Aach, E. Barth, R. Mester, and B. Jähne, “Nonlinear analysis of multi-dimensional signals,” in *Mathematical Methods in Signal Processing and Digital Image Analysis*, ser. Understanding Complex Systems, R. Dahlhaus, J. Kurths, P. Maass, and J. Timmer, Eds., Springer, 2008, pp. 231–288. DOI: 10.1007/978-3-540-75632-3\_7.

## Conference Proceedings as Editor

- [1] B. Rosenhahn and B. Andres, Eds., *Pattern Recognition, Proceedings of the 38th German Conference*, vol. 9796, ser. Lecture Notes in Computer Science, Berlin, Germany: Springer, 2016.

## Technical Reports

- [1] J.-H. Lange and B. Andres, “Decomposition of trees and paths via correlation,” *CoRR*, vol. abs/1706.06822, 2017. [Online]. Available: <http://arxiv.org/abs/1706.06822>.
- [2] E. Laude, J.-H. Lange, F. Schmidt, B. Andres, and D. Cremers, “Discrete-continuous splitting for weakly supervised learning,” *CoRR*, vol. abs/1705.05020, 2017. [Online]. Available: <http://arxiv.org/abs/1705.05020>.
- [3] M. Keuper, S. Tang, Z. Yu, B. Andres, T. Brox, and B. Schiele, “A multi-cut formulation for joint segmentation and tracking of multiple objects,” *CoRR*, vol. abs/1607.06317, 2016. [Online]. Available: <http://arxiv.org/abs/1607.06317>.
- [4] L. Qu and B. Andres, “Estimating maximally probable constrained relations by mathematical programming,” *CoRR*, vol. abs/1408.0838, 2014. [Online]. Available: <http://arxiv.org/abs/1408.0838>.
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